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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,659	07/27/2004	Chung-Chieh Chang	10318-US-PA	4658

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JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
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ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

KITOV, ZEEV

ART UNIT PAPER NUMBER

2836

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/710,659	Applicant(s) CHANG ET AL.	
	Examiner Zeev Kitov	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/27/04, 05/27/05 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner acknowledges a submission of the amendment and arguments filed on November 22, 2005. Claims 1 and 2 are amended. Office Action follows.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the timer switch and the switch circuit having their contacts connected in parallel and forming a first parallel circuit and the starter relay and the timer relay having their contacts connected in parallel and forming a second parallel circuit when both the first and the second parallel circuits are connected in series according to Claim 1 language must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show and positively identify the interconnections as described in the Claims. Without such circuit diagram the circuit functioning is unclear. Fig. 3 and 4 present a kind of a block diagram with some switches (22 and 28) shown as being associated with numbered boxes. However, while the Claim 1, for example, requires a parallel connection between the timer switch (22 in Fig. 3 and 4) and the contacts of the switch circuit (21 in Fig. 3 and 4) this connection is meaningless since this connection is recited in the claims and disclosed in the Specification without any association with the whole circuitry. The parallel connection between the time relay contacts and the starter relay contacts and the series connection between the first circuit and the second circuit has the same problem, i.e. it does not help in explaining the way of the circuit functioning. The schematic role of the timing relay and its contacting elements, i.e. its contacts and switch recited in Claim 1 is unclear. The timing relay is supposed to interact with other switches and contacts but a way of interaction remains obscure. The Drawings do not help to understand it.

It is not clear what is a meaning of the connecting lines in the Fig. 3 and 4, whether these are the symbols of functional connectivity or they present real electrical connections. For example, connecting lines between elements 22 and 21 are supposed

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to be parallel electrical connections, while the line connecting boxes 24 and 26 does not seem to be electrical connection since it is not connected to the second circuit (parallel connection of the timer relay and starter relay contacts).

Exact Drawings of the circuit showing all connections should be provided. Otherwise interconnections of the circuit elements are not clear.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show time T6 in the Fig. 2 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. A reason for that is that the claim recites a timer relay, which “determines whether or not to turn on/off said time switch” and the timer switch. However, according to the claim language, the timer relay has its contacts connected in parallel with a starter contacts. Therefore, the timer has a timer switch controlled by the timer relay and additionally has some other contacts. A functional role of these contacts is not disclosed in the Specification. It is totally unclear what is a difference between the timer switch contacts and the timer relay contacts and how they interact with other elements of the circuit.

2. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. A reason for that is that the claim recites the timer relay contacts and the timer switch contacts being connected in parallel to the switch circuit contacts forming a first parallel circuit and the timer relay contacts being connected in parallel to the starter relay

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contacts forming a second parallel circuit and two parallel circuits being connected in series.

Specification does not provide sufficient description of the system structure and its functional activity. The circuits recited in the Claims are taken out of the whole system and very briefly described in the Specification. Examiner cannot understand how the circuit operates.

The Specification does not help to understand a way of the circuit functioning. Merely referring to contacts of the relays does not positively identify the circuit. The schematic role of the timing relay and its contacting elements, i.e. its contacts and switch recited in Claim 1 is unclear. The timer switch contacts and timer relay contacts of the claim are not described in the Specification and therefore it is not clear, what is the difference between them and what are their functional roles.

The timing relay is supposed to interact with other switches and contacts but a way of interaction remains obscure. For example, it is unclear how the contacts associated with the timer and/or timer relay affect the switching on /off of the frequency converter; whether they are used merely for setting time period T2 - T4, and if so, how the timer and timer relay contacts make it happen, or they perform some other function such as setting switching on/off delays, such as one between T3 – T4 shown in Fig. 2. A third option is that the so called "timer" is nothing but a blocking mechanism fulfilling the stop-reset function. As a result, an understanding of the claimed circuit is impossible without guesses and far reaching assumptions. For purpose of examination this limitation is not given patentable weight.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. According to the claim language, the parallel connection is made between the timer switch and the switch circuit contacts and between starter relay and the timer relay contacts. It is not clear how they are connected, i.e. normally closed or normally open. The functional results of such connections would be totally different. An example of controversy between normally open vs. normally closed contacts is well demonstrated in Fig. 5, in which "the switches 33 and 34 are alternate switches; i.e., if either one of the two switches is on, the other is off". This lack of clear description prevents further understanding of the circuit functioning, and therefore examination of the claim. For purpose of examination patentable weight is not given to the recited limitation.

Specification

Specification is objected to since it does not positively disclose the timer relay functional role and its way of functioning. The timer relay is supposed to interact with other switches and contacts but a way of interaction remains obscure. For example, it is unclear how the contacts associated with the timer and/or timer relay affect the switching on /off of the frequency converter; whether they are used merely for setting

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time period T2 - T4, and if so, how the timer and timer relay contacts make it happen, or they may perform some other function such as setting switching on/off delays, such as one between T3 – T4 shown in Fig. 2. A third option is that the so called 'timer' is nothing but a blocking mechanism fulfilling the stop-reset function. A substitute Specification is required.

In view of preceding USC 112 35 U.S.C. 112 rejection and objections to the Specification and the Drawings Claims 1 – 4 are examined according to the Examiner's best understanding.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Matsko et al. (US 4,331,996). Regarding Claims 1 and 3, The AAPA discloses a starter circuit (element 23 in Fig. 1) determining whether or not to turn on/off the control circuit; a starter relay (element 13 in Fig. 1) turning on the frequency converter, wherein when a voltage level of a power supply to the control circuit is below a first predetermined voltage level, the starter relay

is turned off (Specification paragraphs [0006 – 0008]). It further discloses the starter relay as being the switch activating and deactivating the frequency converter (Specification paragraphs [0006 – 0008]). However, it does not disclose activation of the starter relay in a power-up process. Matsko et al. disclose the circuit wherein when the voltage level of the power supply to the control circuit is raised to above a second predetermined voltage level defined by the zener diode (element ZD5 in Fig. 1) voltage and the voltage divider R10, R13 and R6 (the resistor R7 is shorted by saturated output of comparator CO3) (see col. 6, lines 18 – 47), the starter relay (element UVRC in Fig. 1) is turned on. Both references have the same problem solving area, namely providing protection to the electrical equipment against undervoltages. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the AAPA solution by introducing the second voltage level and making an activation (or reactivation) of the starter relay conditioned on reaching the second voltage level different from the first voltage level, because as Matsko et al. state (col. 28 – 29), this hysteresis loop effect prevents chattering. It is to be noted that the same described above process takes place not only at the time of low voltage drop interruption, but at the start up period too.

It further discloses a timer relay (elements R1 – R3, C1 – C3, CO1 – CO3 in Fig. 1), wherein when the voltage level of the power supply to the control circuit is below the first predetermined voltage level defined by the zener diode (element ZD5 in Fig. 1) voltage and the voltage divider R10, R13, R6 and R7 (the R7 is not is shorted by the floating output of comparator CO3) (see col. 6, lines 18 – 47), the starter relay (element

UVRC in Fig. 1) remains on for a predetermined time period defined by the delay circuit (elements C1 – C3, R1 – R3 in Fig. 1). The timer relay determines whether or not to turn on/off the timer switch (element UVRC in Fig. 1). As to parallel connection of the starter relay and the timer relay, in the AAPA system modified according to Matsko et al, the timer relay being supplied by the power at the same time as the starter relay satisfies the Claim limitation of parallel connection with respect to the power supply.

Regarding Claim 4, Matsko et al. disclose the system wherein when the voltage level of the power supply to the control circuit do not rise to above the second predetermined voltage level during the predetermined period, the timer relay is turned off. Indeed, if the voltage level of the power supply to the control circuit (including the timer of Matsko et al.) does not rise to above the second predetermined voltage defined by the zener diode (element ZD5 in Fig. 1) and voltage divider (elements R10, R13 and R6, since the resistor R7 is shorted by the output of comparator CO3 in Fig. 1) during the predetermined period defined by the charging time of capacitors (C1 – C3 through resistors R1 – R3), the timer relay remains turned off. A motivation for modification of the primary reference is the same as above.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Matsko et al. and Solomon (US 5,053,978). As was stated above, AAPA and Matsko et al. disclose all the elements of Claim 1. However, regarding Claim 2, they do not disclose the stop-reset switch connected in parallel to the timer relay. Solomon discloses the stop-reset switch (element 102 in Fig.

6) and the timer relay (element 96 in Fig. 6) connected in parallel; the stop-reset switch position determines whether the timer relay will be active or not (col. 8, lines 15 – 43).

Both references have the same problem solving area, namely providing activation and resetting of the process controlling system. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the AAP by adding the bypass switch to the time delay relay according to Solomon, because as Solomon states (col. 8, lines 15 – 21), the bypass switch is necessary is to be used when the computer is to be enabled to reset itself in accordance with a preprogrammed event, for example, if certain measurements are out of range, the computer can be programmed to perform the system reset without delay.

Response to Arguments

1. In response to the previous, final Office Action, Applicant amended Claims 1 and 2. However, the Amendment does not provide a sufficient help to understand the Application (see USC 112 35 U.S.C. 112 rejections above). Therefore, the Claims are examined according to the best understanding of the Examiner.

2. As to an issue of type of contacts (page 5, second paragraph), i.e. whether the used contacts are normally-open or normally-closed, the Applicant's Argument's are non-convincing, since a reference to the unrelated IEEE Standard (which does not disclose type of contacts) cannot be taken as replacement for explicit description in the Specification and/or in the Claims.

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3. The rest of Arguments are based on the Amendment to Claim 1 (pages 6 – 8).


However, in view of deficiencies recited in USC 112 35 U.S.C. 112 rejections and objections to the Specification and the Drawings and difficulties in proper understanding of the Claims and Application, some elements of the Amendment have not been given patentable weight.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571) 272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (571) 273-8300 for all communications.

Z.K.

2/22/2006



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